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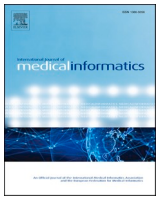

Utilizing nursing standards in electronic health records: A descriptive qualitative study

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ABSTRACT

Background: The electronic health record (EHR), including standardized structures and languages, represents an important data source for nurses, to continually update their individual and shared perceptual understanding of clinical situations. Registered nurses' utilization of nursing standards, such as standardized nursing care plans and language in EHRs, has received little attention in the literature. Further research is needed to understand nurses' care planning and documentation practice.

Aims: This study aimed to describe the experiences and perceptions of nurses' EHR documentation practices utilizing standardized nursing care plans including standardized nursing language, in the daily documentation of nursing care for patients living in special dementia-care units in nursing homes in Norway.

Methods: A descriptive qualitative study was conducted between April and November 2021 among registered nurses working in special dementia care units in Norwegian nursing homes. In-depth interviews were conducted, and data was analyzed utilizing reflexive thematic analysis with a deductive orientation.

Findings

Four themes were generated from the analysis. First, the knowledge, skills, and attitude of system users were perceived to influence daily documentation practice. Second, management and organization of documentation work, internally and externally, influenced motivation and engagement in daily documentation processes. Third, usability issues of the EHR were perceived to limit the daily workflow and the nurses' information-needs. Last, nursing standards in the EHR were perceived to contribute to the development of documentation practices, supporting and stimulating ethical awareness, cognitive processes, and knowledge development.

Conclusion: Nurses and nursing leaders need to be continuously involved and engaged in EHR documentation to safeguard development and implementation of relevant nursing standards.

1. Introduction

Initiatives of nursing standards such as standardized nursing care plans (SNCPs) and standardized nursing languages (SNL) have been developed to support nursing documentation processes in EHR [1]. SNCPs are evidence-based, pre-prepared documents structured according to the nursing process [2], while SNL is an established set of terms that systematically groups, defines, and encodes nursing care as nursing diagnoses, nursing interventions and/or nursing outcomes [3]. The International Classification for Nursing Practice (ICNP), the Omaha System, and NANDA are examples of SNLs that have been accepted and implemented in clinical practice [3]. International research shows that the implementation and utilization of nursing standards in EHR can increase the possibility of distinguishing, extracting, and analyzing nursing care for quality and safety improvements, including improvements of nurses' knowledge of evidence-based clinical guidelines [1,3]. Other potential benefits include reductions in administrative burdens, improved quality of documentation, and enabling identification of patient care needs and more effective management of long-term conditions [4,5]. However, achieving these benefits is challenging, and organization-wide adoption and utilization of nursing standards in EHR in clinical practice are not optimal [6,7]. Outcomes concerning the

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patient's experiences and preferences and high-quality care delivery are lacking in EHRs [8,9]. Moreover, biomedical values dominate EHR-related ethical concerns [10]. Additionally, inaccurate, and non-comprehensive recording of information [11], mismatch with nurses' workflow, increased documentation load, and cognitive overload, have been reported [12,13]. The European Union (2021) report highlights the need for knowledge about the actual utilization of EHR and standards in clinical practice, to understand how to overcome barriers to adoption and use in specific clinical contexts [14]. Investigations of nurses' experiences and perceptions on utilizing nursing standards in daily EHR documentation are lacking [15,16]. Exploring and describing the experiences and perceptions of such, could increase our understanding of how to generate valuable nursing knowledge and high-quality care from EHR documentation [4]. Additionally, it could improve the customizability of EHR to enhance documentation processes and communication of patient information [17]. Lastly, such EHR documentation focus could improve our understanding of nurses' digital competence and how evidence-based knowledge can be transferred into everyday clinical practice [18]. This study is underpinned by the socio-technical-system (STS) theory, emphasizing interactions between the human, technical, and environmental levels to understand an organizational or work system [19]. The socio-technical view allowed us to understand the contribution of phenomena at the human social level (nurses in dementia care) to the performance of technical systems (nursing standards in EHRs) [20], and has previously been utilized in development, implementation, and evaluation of safe and effective EHR systems in healthcare services [21,22].

This study aims to describe nurses' experiences and perceptions of utilizing nursing standards, including SNCPs with SNL, in daily EHR documentation of nursing care for patients living in special dementia-care units in nursing homes.

2. Material and methods

2.1. Study design

A qualitative descriptive (QD) design based on data from individual interviews was utilized in this study to elicit shared meaning among nurses related to experiences and perceptions of daily EHR utilization, including nursing standards, in documenting nursing in a dementia long-term care setting [23]. Semi-structured interviews were conducted, and the interview guide was inspired by the Health Information Technology Reference-based Evaluation Framework (HITREF) [24] and the clinical expertise of all authors. The semi-structured interview guide's questions covered experiences and perceptions regarding the nurses' daily documentation practice in the EHR in general and when utilizing SNCPs and SNL. Table 1 presents the questions in the semi-structured interview guide. The questions were open-ended to facilitate a broader data collection and richer discussion. The interview guide was piloted with one participant and included in the final analysis without changes. A deductive orientation towards the data was performed during analysis. The consolidated criteria for reporting qualitative research (COREQ) checklist [25] were utilized to ensure quality reporting (Supplementary File 1). The Norwegian Centre for Research Data (NSD) and local ethics committee X University approved the study (approval number blinded). Information about the study was provided, and written consent was obtained from the participants. The information letter followed the standards of the NSD and General Data Protection Regulations [26]. Confidentiality was ensured by removing all personal identification information and assuring participants that their information would only be utilized for research purposes.

Table 1
The semi-structured interview guide questions.

Number	Questions
1.	What are your experiences with the documentation of nursing care?
2.	What are your experiences with standardized terminology or language?
3.	To what extent do you experience the care plan as updated?
4.	To what extent do you experience that the care plan is followed-up?
5.	In which contexts do you use free text rather than standardized language when developing a care plan?
6.	How do you structure the documentation of nursing care?
7.	Which areas are most important to document for patients with dementia?
8.	How can you ensure completeness and comprehensiveness in the planning of nursing care for patients with dementia?
9.	How can completeness and comprehensiveness be expressed in the care plan of patients with dementia?
10.	How can patients with dementia be ensured person-centered care in the planning of nursing care?
11.	How can person-centered care be expressed in the care plan of patients with dementia?

2.2. Sample and setting

A purposeful sampling method was utilized to recruit nurses within three large municipalities (populations of 50,000–130,000) and one medium-sized municipality (population of 19,000) in southern Norway. We were granted access to the field through healthcare service leaders, who helped identify appropriate nurses for participation. Eighteen nurses who met the following inclusion criteria were identified: a) a bachelor's degree in nursing, b) currently working in a special dementia care unit, c) over two years of experience working with patients living with dementia, d) over two years of experience documenting nursing care in EHR of patients living with dementia, and e) access to EHR, including nursing standards. Fifteen nurses agreed to participate; however, one participant withdrew on the day of data collection. Five of the respondents had special education in dementia care, and 11 had over five years of clinical experience in dementia care. Ten participants rated their experience documenting nursing care for patients living with dementia in the EHR at an expert level (over five years). Demographics are summarized in Table 2.

At all study sites, nurses were responsible for initiating and developing nursing care plans. Nursing aides or registered nurses were the primary contacts of the patients and responsible for updating the nursing care plans. All staff members, regardless of whether they had received professional education, had access to the EHR and were responsible for authoring daily reports in the progress notes per Norwegian health legislation [27]. The EHR utilized at all study sites were structured according to the nursing process model. The basic needs categories, such as "Circulation," "Respiration," "Nutrition," "Personal Hygiene," and "Mental Health", were defined as areas to enter for free text writing of nursing diagnoses, patient outcomes, and interventions. The EHR utilized at all sites contained SNCPs with ICNP terminology, which were optional to use.

2.3. Data collection and analysis

The data were collected between April and November 2021 by the first author (XX), who was a female PhD candidate with prior experience as a nurse in dementia care. Each interview took place at the nursing home during the day shift. The participant and interviewer had not interacted before the interview. The primary researcher listened actively, took notes on issues to explore further, and asked follow-up questions to deepen participants' responses. No repeat interviews were carried out. The interviews were conducted in Norwegian, audiotaped

Table 2
Characteristics of participants (N = 14).

	Median	Range
Age (years)	46	23–59
Experience from clinical practice as a registered nurse	16	2–35
Experience working with persons living with dementia	17	2–34

with a digital recorder, and transcribed verbatim by the first author. Eight hours of individual interviews were transcribed into approximately 50 pages. The interviews lasted around 34 min (range: 23–42 min).

The data analysis was performed manually following the principles of reflexive thematic analysis by Braun and Clark [28]. The analysis included (1) familiarizing, (2) production of initial codes, (3) exploring potential themes utilizing thematic maps, including central organizing concepts, (4) reviewing themes, (5) defining, refining, and naming themes, and (6) finalizing the findings. Each theme and sub-theme were initially discussed by two members of the research team (XX and XX) and further with all the members of the research team for consensus.

3. Results and discussions

STS-theory was an appropriate framework for this study as it allowed us to be specific about the technology (EHR, including standards), while simultaneously incorporate actors such as the participants, and contextual and cultural elements, and how relationships between these elements lead to action possibilities (care planning and documentation practices). The semi-structured interview guide stimulated rich discussions about the topics, and about the attitudes and feelings of the person utilizing the EHR, including nursing standards. Several themes and sub-themes were generated from the analysis (see Table 3 below).

3.1. Theme: Knowledge, skills, and attitude of the system-user

Most participants expressed that the knowledge, skills, and attitude of the person utilizing the EHR matter for quality and safety of the documentation and communication of patient information in everyday work. This theme was supported by three sub-themes.

3.1.1. Education and training in nursing and about computers

Professional education in nursing, and education and training regarding documenting nursing in the EHR were important factors in the production of high-quality EHR documentation and in securing appropriate follow-up of the patients, according to study participants. Knowing how to document nursing in the EHR were viewed as crucial to secure the well-being of the patients.

> *"Nurses have education that enables them to document better, they see things that needs [sic] to be documented. When we have few nurses not everything with the patients is done properly…we need to use our knowledge from nursing school relating to what is relevant"* (P2).

These findings correspond to previous research showing that strong professional knowledge and skills are necessary for nurses to adopt and utilize EHR in clinical practice. Staggers et al. found that nurses reported a need to receive pertinent data relevant to the surgical patient in handoff situations to "make sense" of the patient's situation [29]. Kemp et al. found that participants viewed general health literacy as a preceding need to implement digital health approaches in cancer care [30]. Nevertheless, several of our participants experienced a need to be adequately prepared with education and training regarding EHR.

> *"I think it is the computer that makes it difficult for many, the fear of deleting the whole care plan if they push the wrong button."* (P9).

Arikan et al. and Jedwab et al. both found that the lack of knowledge and skills for effective EHR utilization is a major barrier to adoption and utilization of EHR in clinical practice, and must be considered [16,31]. If nurses' clinical knowledge and skills relating to dementia care and their digital competence is strengthened with proper and continuous education it might increase nurses' adoption and utilization of EHR, which in turn could enhance nurses' workflow and patient care in the dementia care setting [16,31,32].

3.1.2. Skills in expressing content

Expressing content was highlighted by most participants as challenging, often related to provision of understanding of meaning (semantics). Expressions concerning the psychosocial aspects of care were often viewed as especially difficult.

> *"It is difficult to write in a way that everyone understands. I think a lot about how to formulate the content simple and reasonable [sic]"* (P13).

Some of the participants highlighted careful word choice concerning the patients' behaviors or feelings. As stated by P9: *"…you need to find words that preserve the patient and the situation, it is not my own feelings that should be in the center"*. Such findings correspond to previous research showing that nurses have concerns and dilemmas relating to the patient's dignity and well-being, when choosing words and content during documentation in the EHR [33,34]. Balancing ethical principles relating to benefit/risk for the patient is important for nurses. Leveraging nurses' concerns regarding respectful documentation of patient information could be a way to optimize EHR utilization among nurses in the dementia care setting, possibly thus supporting the well-being of the patient [35]. Increased focus within the EHR system on content relating to psychosocial aspects of care might enable a more informative and meaningful recording of nursing care, which could promote the nurse's skills in expressing high-quality care in the EHR [9].

3.1.3. Attitude towards documentation work

Several participants talked about a personal responsibility towards documentation work as crucial to secure information flow and proper follow–up of documentation.

> *"It is completely necessary in relation to the patients, that it is well documented both from nurses and other staff. It is necessary that you read what the nurses have been writing when you come to work…we are totally dependent on that"* (P3).

Such responsibility was commonly assigned to those who had primary responsibility for the patients. However, there was a general concern among the participants that the *feeling* of responsibility towards documentation work is not something everyone involved with the daily patient care possessed. As P6 noted: *"My experience is that those who are here now and then do not care very much about documentation, I often write information that is not picked up by everyone…"*. This often led to a general concern that the necessary information was not regularly read or utilized by everyone involved in the daily planning and caring of the patients, which could potentially harm the patient.

These findings could be explained by a general lack of focus regarding the value of documentation in the working environment, potentially affecting the attitude of all staff regarding involvement and engagement in EHR documentation work [36]. Jedwab et al. [31] found that motivation was the most perceived barrier and enabler among

Table 3
Summary of findings.

Themes	Sub-themes
Knowledge, skills, and attitude of the system-user	Education and training in nursing and about computers Skills in expressing content Attitude towards documentation
Management and organization of documentation work	Provision of significant time and place to document Frequent decisions concerning structure and content affect motivation to engage in EHR
Usability issues of the EHR*	Entry and navigation within the EHR system Fragmentation of information
Nursing standards contributes to development of documentation practices	Support of ethical awareness Stimulation of cognitive processes Transfer of different types of knowledge

* EHR = Electronic healthcare records.

nurses for utilizing the EHR system in a hospital setting. If nurses (and other staff) in the dementia care setting are supported with proper education and training regarding care planning and documentation in the EHR, it may stimulate the feeling of responsibility to read, write, and follow–up documentation work in the EHR.

3.2. Theme: Management and organization of documentation work

Most participants experienced local and external management and organization of documentation work as highly influential on their documentation practices. This theme is supported by two sub-themes.

3.2.1. Provision of significant time and place to document

Several participants expressed that lacking sufficient time and a designated place for EHR documentation work as a stressful and distracting factor causing concerns regarding the quality of the documentation, such as regular updates of the care plans.

> *"We do not get the care plans updated regularly; we have too little time for such tasks. If we had better time, I think the care plans would be better"* (P12).

Such findings correspond with previous research showing that sufficient time and a designated place for completing EHR documentation are important for efficient documentation and secure patient care. Varpio et al. [37] showed that lack of accommodated time to perform documentation work in the nurses' time schedules leads to an insufficient patient overview for the nurses. Furthermore, negative responses concerning overall workflow are reported in literature if documentation work is interrupted or exposed to noise [12]. If nurses in dementia care settings are provided with both appropriate time and a designated place to perform EHR documentation work, it may increase their concentration during documentation. However, there are inconsistencies in the literature regarding the time required by nurses to utilize the EHR effectively, which could be related to different EHRs or versions [12].

3.2.2. Frequent decisions concerning documentation structure and content affects motivation to engage in EHRs

Participants experienced constant changes in documentation routines as negatively affecting the daily documentation work. Frequent changes in decisions relating to structure and content, (i.e., how and what to document) were viewed as confusing, often resulting in low engagement in documentation work and nothing (relevant) recorded.

> *"It has been a lot of back and forth, people cannot land on anything, as soon as you have become accustomed to writing in one way, everything is turned upside down" (P3).*

Internal and external decisions concerning daily EHR documentation practice should involve nurses and be consistent over time to facilitate a sustainable adoption and utilization of the EHR. Raddaha et al. identified a significant correlation between nurses' positive attitudes towards EHR and leader-initiated involvement of nurses in questions related to customization of the system [38]. Furthermore, nurses that are provided with time to familiarize themselves with the EHR system might be quicker at non-documentation administrative tasks, increasing time spent on direct care in the dementia care setting [4,39].

3.3. Theme: Usability issues of the EHR

Generally, storing the recorded information in the electronic system was viewed positively by all the participants, making retrieving historical information and continuity of care easier. However, the EHR system was experienced as challenging, especially concerning entry, navigation, and fragmentation of information. This theme is supported by two sub-themes.

3.3.1. Navigation and fragmentation of information within the EHR system

Several participants experienced challenges navigating within the system to find relevant information. Not finding relevant information within the system, such as the nursing notes or the data collection, was perceived as a major challenge, potentially leading to information loss and interruptions in workflow.

> *"Finding the nursing-notes is challenging because you must look through the whole system to find them; some information clearly gets lost on the way."* (P10).

The systems' requirements of information fragmentation especially caused frustrations regarding time spent on double documentation and division of holistic information, which was perceived as inefficient for optimizing the care plans.

> *"The care plan is what we are supposed to use, but sometimes it is challenging and time-consuming because we must split the information into several boxes. I mean the information you collect should be reflected in the care plan. We need to start with their story and current needs."* (P12).

Similar results are reported in the review of Tsai et al. [40], who found that inefficiencies of EHR often are experienced by functionality problems not compatible with the nurses' workflow. A breakdown in the nurses' workflow caused by usability and functionality challenges, leading to insufficient transfer of important information and documentation putting the patients' security at risk [12,40].

3.4. Theme: Nursing standards in EHR contributes to development of documentation practices

According to our participants, nursing standards included in the EHR have the potential to support and develop daily documentation practices. This theme is supported by three sub-themes.

3.4.1. Support of ethical awareness

Nursing standards were perceived as more professional and objective by the participants, and they could be helpful in avoiding subjectivity and promote a more respectful documentation, which in turn could stimulate their ethical awareness when free text was required.

> *"It saves the pondering on how to formulate problems or interventions, it is very good that it is already formulated."* (P4).

Few studies exist regarding the ethical issues of utilizing nursing standards in EHR in a single healthcare practice. Ethical principles are important in clinical practice and these findings could indicate that nursing standards represent one solution to the negative experiences of nurses regarding ethical issues when utilizing EHR [10]. If nurses have access to nursing standards in their daily documentation practices, it may enhance their ability to make morally correct decisions when planning care and documenting nursing in EHR. This could support the patients' best interests, potentially safeguarding the wellbeing and dignity of patients.

3.4.2. Stimulation of cognitive processes

Our participants perceived nursing standards as helpful in supporting cognitive processes such as memory and creativity during care planning and documentation. Several mentioned them as particularly supportive in development of the care plan content, making it easier to identify and document nursing diagnosis, especially related to the patient's psychosocial needs.

> *"It is super-important, without it we are almost nothing; it brainstorms you, helps you to think more…without SNL it would be hard to write nursing diagnosis, goals, and interventions. Everyone should use it."* (P5).

Similar findings were shown in a study from an acute hospital setting reporting that the utilization of SNCPs simplified nurses' work regarding easier decision-making processes concerning choices of diagnosis or

interventions in care plans [41]. If nurses have access to nursing standards relevant for patients in the dementia care setting, it may facilitate clinical reasoning and decision making in documentation practice, potentially decrease the diversity in nursing diagnosis and interventions and making the patient care plan more meaningful [5]. However, several participating nurses emphasized that activating critical thinking is crucial when utilizing nursing standards. It was a general concern that by using such standards uncritically it may result in an impersonalized care plan.

> *"I like to use my brain and I think that if everything gets automized, maybe people think less logically"* (P2).
> *"The care plan might not be so individual in a way and that is negative, it will not be special for each patient, they become very alike"* (P8).

A good practice approach in planning care for patients living with dementia is to tailor the individual needs and preferences of the patient, and critical thinking is an essential and active part of nursing practice to safeguard the patient [42,43]. Previous research show that if nurses experience becoming passive users (i.e., simply following an automated system), it leads to inappropriate nursing statements in the descriptions of patient situations [4].

3.4.3. Transfer of different types of knowledge

Personal information, such as the life story of the patient or everyday events ("the little things"), were viewed as particularly important to incorporate into the care plan for making sense of changes in the patient's situation.

> *"The care plan must represent what is special about this person, the little things must appear there. This is completely crucial information which we have no opportunity to get, especially from those who lack language."* (P11).

This need for personalized and individualized information might be an explanation to the nurses' concerns related to thinking critically when utilizing nursing standards for documentation purposes. For the nurses to become active users of nursing standards included in the EHR of patients living with dementia, there should be possibilities to add data or information that facilitate an individualized and personalized approach to care. Being able to add such information may enhance nurses' EHR adoption and utilization, including enhancing patient care [32,44].

Several participants mentioned that nursing standards could clarify dementia care and be helpful in guiding and improving their care planning and delivery.

> *"I think it would be helpful, especially for me since I have little experience in dementia care and there are lots of things that I don't know regarding what affects the patients, even though I have been a nurse for several years."* (P12).

However, thorough descriptions in the documentation were highlighted for understanding the patient's needs and knowing how to meet them.

These findings correspond to previous research showing that nursing standards facilitating the generation of accurate and timely knowledge aids high-quality care planning and documentation [3]. However, individual and personalized information require more text, often written in a more narrative way [45]. Castellà-Creus et al. [41] reports that nurses in acute care hospitalization wards preferred to record in a narrative way to individualize the planning and delivery of care. Lack of possibilities for free text writing may make nursing standards inflexible and inadequate to follow, especially regarding psychosocial aspects of care. A possible solution may be to grant nurses in the dementia care setting access to nursing standards containing free text possibilities on specific keywords regarding the psychosocial needs and wellbeing of the patient. However, the quality of natural language notes should be considered as features and processes of such notes in EHR could be problematic regarding nursing visibility and in achieving a comprehensive view of the patient's clinical status [46].

3.5. Limitations, strengths, and implications for future recommendations

Regarding limitations, our study has a relatively small sample size, which could have affected the sufficiency of the data collected. Moreover, our study did not include the experiences of other significant stakeholders (e.g., nurse aides or other care givers), and hence, future research is needed to explore the experiences of these stakeholders. However, the participants had a wide range of experiences relevant to this study, implying information power [47]. Furthermore, our findings may have been influenced by the interview guide, potentially causing significant data to be overlooked in the data collection and analysis process. Conversely, the interview guide may have minimized subjectivity, as our interpretation of the findings may be one of many possible [48].

From our findings, we have three recommendations. First, nurses' professional, digital, and ethical knowledge, skills, and attitude is not only necessary for safeguarding quality of documentation work, but also suggested for the continuity and safe delivery of care when utilizing EHR in clinical practice. Second, EHR utilization, including nursing standards, is an effective strategy to improve understanding and knowledge regarding dementia care. Third, to further develop knowledge for enhancing care planning and nursing documentation in the dementia care setting, this study suggests implementing relevant nursing standards into the EHR.

4. Conclusions

Although EHR utilization in Norway is common in clinical practice, the utilization of nursing standards is novel, and research is limited. Our findings suggests that nurses and nursing leaders must be continuously involved and engaged in EHR documentation to safeguard development and implementation of relevant nursing standards. Further qualitative research is needed to get a better understanding of how nurses in different clinical settings experience and perceive adoption and utilization of EHRs, including nursing standards.

5. Author's contributions

All authors participated in designing the study. Lene Baagøe Laukvik was responsible for data collection, writing the main manuscript and preparing the tables. All authors participated in analysis and discussions, in addition to preparing the manuscript. All authors reviewed the manuscript and read and approved the final manuscript

Summary table

- This study aimed to describe the experiences and perceptions of nurses' electronic health record (EHR) documentation practices utilizing standardized nursing care plans, including standardized nursing language, in the daily documentation of nursing care for patients living in special dementia-care units in nursing homes in Norway.
- International research shows that the implementation and utilization of nursing standards in EHR can increase the possibility of distinguishing, extracting, and analyzing nursing care for quality and safety improvements, including improvements of nurses' knowledge of evidence-based clinical guidelines. Other potential benefits include reductions in administrative burdens, improved quality of documentation, and enabling identification of patient care needs and more effective management of long-term conditions.
- Exploring and describing the experiences and perceptions of such, could increase our understanding of how to generate valuable nursing knowledge and high-quality care from EHR documentation. Additionally, it could improve the customizability of EHR to enhance

documentation processes and communication of patient information. Lastly, such EHR documentation focus could improve our understanding of nurses' digital competence and how evidence-based knowledge can be transferred into everyday clinical practice.

- Our study yielded the following recommendations. First, nurses' professional, digital, and ethical knowledge, skills, and attitude is not only necessary for safeguarding quality of documentation work, but also suggested for the continuity and safe delivery of care when utilizing EHR in clinical practice. Second, EHR utilization, including nursing standards, is an effective strategy to improve understanding and knowledge regarding dementia care. Third, to further develop knowledge for enhancing care planning and nursing documentation in the dementia care setting, this study suggests implementing relevant nursing standards into the EHR.
- Our findings suggest that nurses and nursing leaders need to be continuously involved and engaged in EHR documentation to safeguard development and implementation of relevant nursing standards.

CRediT authorship contribution statement

Lene Baagøe Laukvik: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Merete Lyngstad:** Writing – review & editing, Supervision, Formal analysis, Conceptualization. **Ann Kristin Rotegård:** Writing – review & editing, Supervision, Formal analysis, Conceptualization. **Mariann Fossum:** Writing – review & editing, Supervision, Methodology, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

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